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| APPLICATION NO.       | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------------|-------------|----------------------|---------------------|------------------|
| 10/673,444            | 09/30/2003  | Takayuki Kondo       | 116955              | 2616             |
| 25944                 | 7590        | 10/13/2006           | EXAMINER            |                  |
| OLIFF & BERRIDGE, PLC |             |                      | LEE, JOHN D         |                  |
| P.O. BOX 19928        |             |                      | ART UNIT            | PAPER NUMBER     |
| ALEXANDRIA, VA 22320  |             |                      | 2874                |                  |

DATE MAILED: 10/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/673,444

Applicant(s)

KONDO, TAKAYUKI

Examiner

John D. Lee

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 3-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 3, 15-23, 32 and 33 is/are rejected.
- 7) ☒ Claim(s) 4-14 and 24-31 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 20060908.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

Applicant's communication submitted on August 18, 2006, has been carefully considered by the Examiner. The arguments advanced therein are persuasive and the rejection made of record in the previous Office action is hereby withdrawn. The Examiner agrees that Saini et al does not disclose optical elements attached to the substrate by adhesive. In view of further search, however, and the consequent discovery of a relevant prior art document, a new rejection is set forth below. This action is **not** made final.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 3, 15-23, 32, and 33 are rejected under 35 U.S.C. § 103(a) as being unpatentable over newly cited U.S. Patent 6,045,756 to Carr et al in view of U.S. Patent 5,650,123 to Saini et al. Carr et al shows and describes, in Figure 1, an optical interconnection circuit comprising a substrate (platform) **12**, a light emitting element **20** fixed on the substrate **12**, light receiving elements **26**, **28** fixed on the substrate **12**, and optical waveguides **22**, **24** formed on the substrate to connect the elements. Although the word "adhesive" is not used in the Carr et al reference, the reference indicates that the light emitting and receiving elements are "affixed to the upper surface **18** of the platform **12**" (column 3, line 51). To the ordinarily skilled artisan, the word "affixed" would connote a secure and permanent attachment, such as by an adhesive. Therefore, the assumption that the Carr et al light emitting and receiving elements are adhesively fixed to the substrate (platform) **12** would have been obvious to the person of ordinary skill. The optical waveguide (**22** or **24**) of Carr et al transmits light from the

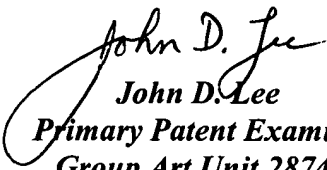
light emitting element **20** to a light receiving element, but does not cover a part of each element. Saini et al, however, shows (in a very similar type of optical interconnection circuit) a waveguide which covers both a part of the light emitting element and a part of the light receiving element (see Figure 1B of Saini et al). Since the geometry of the Saini et al waveguide (with angled in-coupling and out-coupling surfaces) provides more efficient coupling, it would have been obvious to adopt the Saini et al waveguide structure in the interconnection circuit of Carr et al, thus having the angled waveguide end surfaces partially cover the light emitting element and the light receiving element. Only ordinary skill in the art would be involved. As stated in the previous Office action, the limitations of applicant's claims 3, 15-21, 32, and 33 are disclosed in the Saini et al reference. In view of the remarkable similarity between the circuits of Saini et al and Carr et al, the incorporation of these features in Carr et al would have been obvious. With respect to applicant's claims 22 and 23, the method set forth therein is so broadly stated that it would have been obvious, since it basically calls for merely assembling the components that have already been demonstrated to be present in the Carr et al reference.

Claims 4-14 and 24-31 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Neither Saini et al nor Carr et al disclose or suggest a *waveguide light scattering mechanism* or a *waveguide light reflecting mechanism* (claims 4-14); and neither reference discloses or suggests the specific manufacturing steps set forth in claims 24-31.

Applicant's arguments with respect to the presently pending claims have been considered but are moot in view of the new ground(s) of rejection.

All of the prior art documents submitted with the Information Disclosure Statement filed on September 8, 2006, have been considered and made of record in the application. Note the attached initialed copy of form PTO-1449.

Any inquiry concerning the merits of this communication should be directed to Examiner John D. Lee at telephone number (571) 272-2351. The Examiner's normal work schedule is Tuesday through Friday, 6:30 AM to 5:00 PM. Any inquiry of a general or clerical nature (i.e. a request for a missing form or paper, etc.) should be directed to the Technology Center 2800 receptionist at telephone number (571) 272-1562, to the technical support staff supervisor (Team 8) at telephone number (571) 272-1564, or to the Technology Center 2800 Customer Service Office at telephone number (571) 272-1626.

  
**John D. Lee**  
**Primary Patent Examiner**  
**Group Art Unit 2874**